REMARKS

Claims 1-3, 6 and 11-13 are pending.

Claims 1-3, 6 and 11-13 are rejected.

35 USC 103 (a)

Claims 1, 3, 6 and 12and 13 are rejected under 35 USC 103(a) as being unpatentable over Sano, US 2002/0077384 in view of Itabashi, US 5,854,323.

Examiner believes Sano to teach an ink composition containing polymerizable monomers, an epoxy resin, a photoinitiator and additional additives. The epoxy resin is alkali-soluble and the photoinitiator is a photosensitive component.

However, Sano is directed to a pigment coating. Not one of the examples are photosensitive as no photoinitator is added. And further no epoxies are exemplified. Nevertheless, Sano does teach the possibility of photointiators in the coating and epoxies. The possibility of the epoxy is suggested in § 0049 but it is part of a rather long list of other alternatives.

Sano does not teach the particular phthalocyanine of the present claims. Example Pigment dispersion G uses an unsubstituted phthalocyanine.

Examiner relies on Itabashi, believing that Itabashi teaches the instant phthalocyanine of formula (I).

What Itabashi does teach at col. 6, l. 14-30:

> The pigment dispersing agent is an aqueous linear urethanic plymer having at least one group selected from the group consisting of primary amino group, secondary amino group, hydroxyl group and isocyanate group only at the terminal end or at the both terminal ends if formed and then the primary amino group, secondary amino group, hydroxyl group,or isocyanate group at the terminal end or at the both terminal ends of the aqueous linear urthanic polymer is made to react with an organic dye or the like having at least on reactive group selected from the c=group consisting of –COCL, _SO2CL, -CH2Cl,-CH2NHCO,-CH2CL, -COOH, -NH2, -NHR and –OH, thereby obtaining an aqueous type pigment dispersion agent having **the organic dye or the like only at the terminal end or at the both terminal ends of the aqueous linear urthanic polymer**.

Therefore Itabashi teaches a phtholocyanine having OH groups (col. 6, lines 6-8) reacted at the terminal end or at the both terminal ends of the aqueous linear urethanic polymer. See col. 6, lines 10-14.

The purpose of Itabashi is to form a pigment dispersing agent of such a structure that has a portion which has a high affinity with a pigment and which has at least one type of dye. Phalocyanine may be a type of dye.

Accordingly Itabashi does **not** teach a phthalocyanine of formula (1) but a structure of formula (1) reacted with a linear urethanic polymer.

Even of one skilled in the art were disposed to look to Itabashi, the hydroxyl copper phthalocyanine taught therein would only be used in its polymeric form; that is as reaction product with the urethane polymer. And the urethane polymer terminated with phthalocyanine for use as a dispersing agent for like dye is **not** encompassed by formula (1).

Applicants respectfully submit that for one to take the intermediate phthalocyanine taught by Itabashi without regard for the essential teachings of Itabashi (reaction with urethane polymer) is improper.

Accordingly, Applicants believe the rejection is overcome.

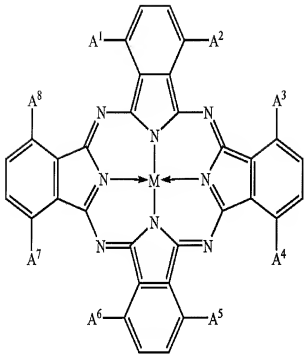
Claims 1, 2,6,11 and 13 are rejected under 35 USC 103(a) as being unpatentable over Tronche, US 2002/0025402 in view of Yashiro, US 7,144,677.

Examiner believes Tronche to teach a photoinitiator, a polymerizable monomer, an epoxy acrylate to increase curing speed, an alkali-soluble polymer and polymerizable monomers.

However, Tronche does not teach alkali soluble polymers. What Tronche does teach (§ 0045) is multi-functional (meth)acrylate components including polyester (meth)acrylates, polyurethane (meth)acrylates and (meth)acrylated epoxy (meth)acrylates. Preferred components are oligomers such as Novolak polyester oligomers and epoxy Novalak acrylates.

Furthermore, Tronche is directed to optical disc and makes no statements as to preferred color of the dye of interest. Nor does Tronche teach that the dye used in the optical disc coatings should be halogen free.

However, Yashiro teaches



One member of each of the pairs A1 and A2, A3 and A4, A5 and A6, A7 and A8 is –O-C(R1)(R3)-R2, and the other member may be a hydrogen atom.
R, R3 are alkyl groups, fluorine-substituted alkyl groups or a hydrogen atom. R2 is an alkyl group, or a substituted or an unsubstituted aryl group. (col. 7, lines 19-30)

Therefore one skilled in the art would need to select specifically **all four pairs** be –O-C(R1)(R3)-R2 wherein R2 is unsubstitued aryl and R1 and R3 are either hydrogen or alkyl. Thus there is overlap but not a lot of direction or motivation to make a green compound with this specific structure particularily without a halogen. Applicants point out that all the invention examples of Yashiro use halogen (examples 1 and 2) and there is no color preferences for these dyes.

Examiner has argued that Yashiro teaches the alkoxy of 1-10 carbons is a preferred substituent group (co. 6, lines 23-25). Therefore, one of ordinary skill would envision forming a substituent group of a methoxy or methoxyphenyl group attached to the phthalocyanine dye.

Applicants reply again that while one skilled in the art might make a phthalocyanine dye substituted with alkoxy of 1-10 carbons, in order to meet the limitations of the claims, one skilled in the art would

need to select **all four pairs** be –O-C(R1)(R3)-R2 wherein R2 is unsubstituted aryl and R1 and R3 are either hydrogen or alkyl. And one skilled in the art would need to do without halogen substitution and one would also need to select a **green** dye. Yashiro clearly directs one skilled in the art to halogen substitution in examples 1 and 2 and gives no indication of color preferences at all.

Furthermore, applicants point out the present examples, especially the application examples on page 17. The inventive compositions are combined with the components a) thru f), applied to a substrate and cured. The reference example (Pigment Green 7 – contains multiple chlorine substitution on the phthalocyanine). The inventive examples containing a phthalocyanine of formula (1) show no discoloration after heat treatment compared to the reference. Therefore the use of phthalocyanines of formula (1) without halogen show good heat stability.

The present composition is well suited to solder resist, etching resist or plating resist in the manufacture of printed circuit boards. Further the very particular compositions containing the formula (1) are required to be **green** (this is a claim limitation), show clear hue, good weather and heat resistance that is statisfactory and at the same time incorporates no halogen, a desired environmental benefit.

It is clear that Yashira did not understand the importance of including a green phthalocyanine of formula (1) in a photosensitive resin composition and the resulting advantages from that composition. This is especially true as Yashiro is directed to high speed recording and reduction of jitter and does not suggest the use of his dyes within a resist.

Furthermore, Yashira's application is not especially sensitive to the actual color of the dye used in high speed recording. The color of the CD-R disc is related to the color of the specific dye used in the recording layer. This base dye color is modified when the reflective coating (gold or silver) is added. Some of the dye-reflective coating combinations appear green, some appear blue and others appear yellow/gold. But these visual differences between various media types are irrelevant from the standpoint of their actual operation in recording. The 780 nm, where CD-R recorders and CD-ROM readers function, the media are, for all intents and purposes, indistinguishable from an optical recording standpoint. They all "look" the same to the devices. Simply because a compound absorbs at 780nm does not mean it will be a specific color because the remainder of the absorbtion within the pigment will determine the actual color.

Therefore, the color of the phthalocyanines taught by Yashira doesn't really matter. They could be green, blue or transparent even. But the color of the phthalocyanine used in the present invention matters significantly as the industry (solder resists, etching resist or plating resists in the manufacture of printed circuit boards) has not accepted colors other than green. See page 1, paragraph 4.

Thus there is no incentive within Yashira to select a **green, nonhalogen substituted pigment.**

In summary, applicants submit:

- Tronche fails to teach alkali soluble resins or oligomers. Yashira does not make up for this deficiency. Even if Tronche is combined with Yashira, the full limitations of the claims are not taught or suggested by either or both of the reference combined.
- Even if one skilled in the art were to combine these references, one would have to selectively choose from Yashira a green colored compound of formula (1), with little or no direction from Yashira whose examples teach halogen containing phthalocyanines and no stated color requirement. These would then have to be combined with the components of Tronche.
- Furthermore, even if this combination made sense neither reference understood the advantages (heat resistance, green color requirement and color stability without halogen)given by the selection of the particular green compound of formula (1) in the inventive photosensitive composition in solder resist because neither reference discusses solder resists, etching resist or plating resist in the manufacture of printed circuit boards.
- Although one skilled in the art might have selected from Yashira the particular group encompassed by formula (1), the art skilled would also need to do so with little direction from Yashira and would have more likely chosen a formula which also included halogen (see examples of Yashira) and was a color other than green.

The applicants respectfully request reconsideration and withdrawal of the rejections to claims 1-3, 6 and 11-13 in light of the above remarks.

Since there are no other grounds of objection or rejection, passage of this application to issue with claims 1-3, 6 and 11-13 is earnestly solicited.

Applicants submit that the present application is in condition for allowance. In the event that minor amendments will further prosecution, applicants request that the examiner contact the undersigned representative.

Respectfully submitted,

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